



IN THE CLAIMS

1. (Currently Amended) A non-aqueous electrolyte secondary cell comprising:
a cathode employing a cathode active material containing a compound of the olivinic structure having the formula $\text{Li}_x\text{Fe}_{1-y}\text{M}_y\text{PO}_4$, where M is at least one selected from the group consisting of Zn, Al, Ga, Mg, and, with $0.05 \leq x \leq 1.2$ and $0 \leq y \leq 0.8$;
an anode; and
an electrolyte solution; said cathode, anode and the electrolyte solution being housed in a container; wherein
the amount of said electrolyte solution is adjusted to provide a void in said container of not less than 0.14 cc and not larger than ~~3.3~~ 0.21 cc per 1Ah of the cell capacity.
2. (Original) The non-aqueous electrolyte secondary cell according to claim 1 wherein said cathode active material contains a composite material of said compound and a carbon material.
3. (Original) The non-aqueous electrolyte secondary cell according to claim 1 wherein said anode contains a carbonaceous material as an anode active material.
4. (Original) The non-aqueous electrolyte secondary cell according to claim 1 wherein a strip-shaped cathode material and an anode material are layered together via a separator and are wound a plural number of times to form a cell device, said cell device being housed in a cell can as said container.
5. (Original) The non-aqueous electrolyte secondary cell according to

claim 4 wherein said cathode material includes a cathode current collector on each side of which a layer of a cathode active material containing a cathode active material is formed and wherein said anode material includes an anode current collector on each side of which a layer of an anode active material containing an anode active material is formed.

6. (Original) The non-aqueous electrolyte secondary cell according to claim 5 wherein said layer of the cathode active material is formed of an LiFePO_4 carbon composite material composed of said compound and a carbon material.

7. (Previously Presented) The non-aqueous electrolyte secondary cell according to claim 6 wherein the carbon content per unit volume in said LiFePO_4 carbon composite material is not less than 3 wt%.

8. (Previously Presented) The non-aqueous electrolyte secondary cell according to claim 6 wherein the carbon material of said LiFePO_4 carbon composite material has a strength-to-area ratio of a diffraction line appearing at the number of waves of 1570 to 1590 cm^{-1} (G peak) to a diffraction line appearing at the number of waves of 1340 to 1360 cm^{-1} (D peak) of the Raman spectrum in Raman spectrometry, or $a(\text{D}/\text{G})$, equal to 0.3 or higher.

9. (Previously Presented) The non-aqueous electrolyte secondary cell according to claim 6 wherein the powder density of said LiFePO_4 carbon composite material is not less than 2.2 g/cm^3 .

10. (Previously Presented) The non-aqueous electrolyte secondary cell according to claim 6 wherein the Bullnauer Emmet Teller specific surface is not less than 10.3 m²/g.

11. (Previously Presented) The non-aqueous electrolyte secondary cell according to claim 6 wherein the first-order particle size of said LiFePO₄ carbon composite material is not larger than 3.1 μm.

12. (Previously Presented) The non-aqueous electrolyte secondary cell according to claim 1 wherein said non-aqueous electrolyte is a non-aqueous electrolyte solution composed of an electrolyte dissolved in a non-aqueous protonic solution.

13. (Previously Presented) The non-aqueous electrolyte secondary cell according to claim 1 wherein said non-aqueous electrolyte is a solid electrolyte.